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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/762,677	04/05/2001	Francois Court	ATOCM-195	6526
23599	7590	05/24/2004	EXAMINER	
MILLEN, WHITE, ZELANO & BRANIGAN, P.C. 2200 CLARENDON BLVD. SUITE 1400 ARLINGTON, VA 22201			AUGHENBAUGH, WALTER	
			ART UNIT	PAPER NUMBER
			1772	

DATE MAILED: 05/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/762,677

Applicant(s)

COURT ET AL.

Examiner

Walter B Aughenbaugh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Acknowledgement of Applicant's Amendments

1. The amendments made in claims 1, 2, 9, 10, 15, 16 and 18-20 in the Amendment filed March 8, 2004 (Amdt. D) have been received and considered by Examiner.
2. New claim 24 presented in Amdt. D has been received and considered by Examiner.
3. The amendments made in the abstract in Amdt. D have been received and considered by Examiner.

WITHDRAWN OBJECTIONS

4. The objection to the specification made of record in paragraph 8 of Paper 15 has been withdrawn due to Applicant's amendment to claim 1 in Amdt. D.
5. The objection to the abstract made of record in paragraph 9 of Paper 15 has been withdrawn due to Applicant's amendments to the abstract in Amdt. D.
6. The objection to claims 2, 10 and 18 made of record in paragraph 10 of Paper 15 has been withdrawn due to Applicant's amendments to claims 2, 10 and 18 in Amdt. D.

WITHDRAWN REJECTIONS

7. The 35 U.S.C. 112, first paragraph rejection of claim 1 made of record in paragraph 12 of Paper 15 has been withdrawn due to Applicant's amendment to claim 1 in Amdt. D.
8. The 35 U.S.C. 112, second paragraph rejection of claim 1 made of record in paragraph 14 of Paper 15 has been withdrawn due to Applicant's deletion of the term "linear" in claim 1 in Amdt. D and due to Applicant's arguments regarding the term "semicrystalline" presented on page 9 of Amdt. D. Applicant provided an excerpt from the Second Edition of *Principles of*

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Polymerization (1981) that includes the statement that semicrystalline polymers “exhibit both the crystalline melting and glass transition temperature” (pg. 30).

9. The 35 U.S.C. 112, second paragraph rejection of claim 9 made of record in paragraph 14 of Paper 15 has been withdrawn due to Applicant’s amendments in claim 9 in Amdt. D.

REPEATED REJECTIONS

10. The 35 U.S.C. 112, second paragraph rejection of claims 19 and 20 made of record in paragraph 14 of Paper 15 has been repeated because Applicant has not addressed the portion of the rejection regarding the “+” symbol in the claims.

11. The 35 U.S.C. 103(a) rejection of claims 1, 2, 8-11, 13, 15, 16, 18 and 21-23 over Witschard in view of Rober et al. have been repeated for the reasons previously made of record in paragraph 15 of Paper 15. The polyvinylidene fluoride homopolymer or copolymer comprising polyvinylidene fluoride taught by Witschard (col. 4, lines 39-57) is necessarily a semicrystalline thermoplastic fluoro-resin since Applicant claims a homopolymer of vinylidene fluoride or a copolymer of vinylidene fluoride and at least one other fluoromonomer as the fluoro-resin of claim 1 in claim 10. The language of claim 1 was added to claim 15 to make claim 15 an independent claim, but the subject matter of claim 15 was not changed. In regard to claims 16 and 18, which now depend upon claim 15, Witschard et al. teach that the alkyl (alkyl) acrylate “A block” is a homopolymer or copolymer of methyl methacrylate (col. 8, lines 32-43 and col. 12, lines 32-34) as stated in paragraph 15 of Paper 15.

12. The 35 U.S.C. 103(a) rejections of claims 3-7, 12, 14, 17, 19 and 20 made of record in paragraphs 16-20 of Paper 15 have been repeated for the reasons previously made of record in paragraphs 16-20 of Paper 15 and for the following reasons that address the amendments made

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in claims 19 and 20: Witschard and Rober et al. fail to teach a four layer tube with the following layers in the specified order from the outside of the tube to the inside of the tube: polyamide, binder, fluoropolymer, fluoropolymer blended with the ABC triblock copolymer and carbon black in the case of claim 19 or polyamide, binder, fluoropolymer blended with the ABC triblock copolymer, fluoropolymer blended with the ABC triblock copolymer and carbon black in the case of claim 20. However, Lorek teaches a five-layer pipe formed from a central layer of fluorinated polymer with layers of binder on both sides and layers of polyamide adjacent to both binder layers, in the order of polyamide, binder, fluorinated polymer, binder, polyamide" (col. 4, lines 18-23) as discussed above. Since the binder is preferably mixed with fluorinated polymer in order to render the binder layers less rigid (col. 4, lines 30-34), the four-layer structure claimed by the applicant exists in this five layer structure along with a second (inner) polyamide layer. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have omitted the inner polyamide layer in the five-layer structure of Lorek, since it has been held that omission of an element and its function in a combination where the remaining elements perform the same functions as before involves only routine skill in the art. *In re Karlson*, 136 USPQ 184. Omission of the inner polyamide layer does not affect the function of the tube since the three layer structure of Lorek of an inner layer of fluorinated polymer bonded by the adhesion binder layer to an outer layer of polyamide (col. 4, lines 10-15) exists in the four-layer structure. This three-layer structure decreases the permeability by a factor of 10 relative to that of an equivalent pipe made of only polyamide (col. 4, lines 12-15). Therefore, omission of the inner polyamide layer, which has inferior permeability resistance compared with

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the three-layer structure, from the five-layer structure does not affect the permeation properties of the resultant four-layer structure.

In regard to the carbon black limitation, as discussed in the rejection of claim 8, Rober et al. teach that electrically conductive additives may be added to polyamide and/or the polyvinylidene fluoride blend layers (col. 5, lines 1-11). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have added carbon black to the fluoropolymer/copolymer blend of Witschard and Rober et al. in order to make the layer/s electrically conductive as taught by Rober et al.

In regard to claim 20, Lorek teaches that when the binder based on polymer A contains a fluorinated polymer, it is preferable that the fluorinated polymer present in the binder is the same as that which is found in the adjacent layer of the fluorinated polymer (col. 4, lines 34-20). Therefore, one of ordinary skill in the art would have recognized to use the same fluoropolymer/copolymer blend in the fluorinated layer of Lorek as is used in the fluorinated binder layers as taught by Lorek.

NEW REJECTIONS

Claim Rejections - 35 USC § 112

13. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 makes it clear that there is one A block, one B block and one C block in the triblock copolymer, but the term "blocks" inserted after "A", "B" and "C" indicates that there are more than one of each of the A, B and C blocks: this inconsistency must be corrected. Furthermore, are the claimed "parts by weight" ranges based on the weight of only the triblock

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copolymer or on the weight of the blend? The added “based on the triblock copolymer” recitation suggests that the claimed “parts by weight” ranges are based on the weight of only the triblock copolymer, but the “based on the triblock copolymer” recitation does not specify that it is the weight of the triblock copolymer on which the claimed “parts by weight” ranges are based.

Claim Rejections - 35 USC § 103

14. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Witschard in view of Rober et al.

Witschard and Rober et al. teach the tube as discussed above and in paragraph 15 of Paper 15. Witschard teaches that vinyl fluorides, such as vinylidene fluoride, are suitable vinyl halide homopolymers and copolymers (col. 4, lines 39-57) for the polymer blend comprising a polyvinyl halide resin and a block copolymer (col. 3, lines 54-68); therefore, Witschard teaches a homopolymer of vinylidene fluoride or a copolymer of vinylidene fluoride and at least one other fluoromonomer as the fluororesin of the tube.

ANSWERS TO APPLICANT'S ARGUMENTS

15. Applicant states that “the Office Action agrees that the claims are patentable regardless of the linear nature of the triblock copolymer” on page 8 of Amdt. D, but Paper 15 does not include a statement indicating that any of the claims are patentable.

16. Applicant’s arguments on pages 10-11 of Amdt. D in regard to the 35 U.S.C. 103(a) rejections made of record in Paper 15 have been fully considered but are not persuasive.

Applicant states that “the portion of Witschard relied on” is “the portion of column 2 at line 39+ disclosing block thermoplastic elastomers”, but the passage starting at line 39 of column 2 and ending at the end of column 2 (i.e. ending at line 68 of column 2) is not relied upon in the

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rejection of independent claim 1 in Paper 15. Col. 2, lines 39-68 of Witschard pertain to the prior art and some shortcomings of the prior art, not to the invention of Witschard.

Witschard's statement that the "block polymer is normally incompatible with [the] vinyl halide polymer" (col. 3, lines 18-19) does not exclude block polymers that are compatible with the vinyl halide polymer from the scope of the invention of Witschard due to the term "normally". Note that Applicant's claim 1 requires that the B and C blocks be incompatible with the fluororesin as claimed.

Applicant argues that Witschard "completely lacks" a teaching of the "presently claimed A block, which is compatible with the fluororesin" and argues that "there is a misunderstanding" of the disclosure of col. 8, lines 32-44 and col. 12, lines 32-34 of Witschard, portions of Witschard that were cited in paragraph 15 of Paper 15. The ABC triblock copolymer that is claimed in claim 1 falls within the scope of the disclosure of Witschard for the reasons made of record in paragraph 15 of Paper 15, and there was no misunderstanding of the disclosure of col. 8, lines 32-44 and col. 12, lines 32-34 of Witschard. Applicant argues that the passage at col. 8, lines 32-44 "does *not* teach the use of a third block" because of the "also as comonomer units" phrase at line 39 of col. 8, but the "also as comonomer units" phrase does not teach away from a third block. Consider an ABC triblock copolymer having an A block, a B block and a C block, where the A block consists of "A monomers", the B block consists of "B monomers" and the C block consists of "C monomers": the "A monomers", "B monomers" and "C monomers" of the ABC triblock copolymer are comonomers. The "comonomer units" characterization of Witschard does not require that the "comonomer units" be a part of one or both of the B and C blocks (i.e. the B and C blocks as defined in Applicant's claim 1). The "comonomer units"

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characterization of Witschard includes the condition where the “comonomer units” make up a third block (the A block as defined in Applicant’s claim 1) because the “A monomers”, “B monomers” and “C monomers” of an ABC triblock copolymer are comonomers. The condition that “blocks 1 and 2 may contain some acrylates as *comonomers* with the alkenyl-substituted aromatics and/or conjugated hydrocarbonated alkadienes”, that Applicant contends is the only condition that is taught by the “comonomer units” phrase, is a condition that falls within the scope of Witschard, but is not the only condition that falls within the scope of Witschard (e.g. the condition where the “comonomer units” make up a third block falls within the scope of Witschard): again, the “comonomer units” phrase does not require that the “comonomer units” be a part of one or both of the B and C blocks (i.e. the B and C blocks as defined in Applicant’s claim 1). As stated in paragraph 15 of Paper 15, Witschard teaches that the block polymer is a linear triblock copolymer (col. 9, lines 18-22); therefore, in the instance where the block polymer is a linear triblock copolymer and the “comonomer units” (line 39 of col. 8) are present in the block polymer, the condition where the third block consists of the “comonomer units” falls within the scope of the teachings of Witschard.

Applicant’s arguments in the first full paragraph of page 11 of Amdt. D are presented as support for Applicant’s contention that there was a “misunderstanding” of that which is presented at col. 12, lines 32-34 of Witschard. Again, there was no misunderstanding. Col. 12, lines 32-34 was cited in paragraph 15 of Paper 15 only to provide evidence that methyl methacrylate is a lower alkyl ester of acrylic acid (lower alkyl esters of acrylic acid are taught at col. 8, lines 40-43). In the sentence after the sentence in which col. 12, lines 32-34 was cited in Paper 15, col. 12, lines 30-34 was cited to provide evidence that the monomer of the A block of

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Witschard (as defined by Applicant's claim 1) is compatible with the fluoropolymer of Witschard as is clear from paragraph 15 of Paper 15. Neither col. 12, lines 32-34 nor col. 12, lines 30-34 were cited in Paper 15 as a teaching "to produce one block of a triblock polymer" as Applicant has erroneously interpreted the rejection as stating.

Conclusion

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter B. Aughenbaugh whose telephone number is 571-272-1488. The examiner can normally be reached on Monday-Thursday from 9:00am to 6:00pm and on alternate Fridays from 9:00am to 5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Walter B. Aughenbaugh

05/19/04

WBA


HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772

5/19/04